

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A projection optical apparatus, comprising:
a projection unit comprising a display device and projection optical systems,
a concave mirror for projecting exit pupils of said projection optical systems onto a given position, and
a diffusing plate located near to images projected through said projection optical systems, wherein:
at least three such projection units are provided,
said projection optical systems magnify and projects an image appearing on said display device, and said diffusing plate has such a diffusion action that said exit pupil images are each projected in an at least partially overlapping fashion, wherein said diffusing plate is a transmission hologram and at least three display device among the display devices in said projection units display images of mutually different colors.
2. (Canceled)
3. (Currently Amended) The projection optical apparatus according to claim 1 [2], wherein:
said transmission hologram is located such that a light ray from said display device to said exit pupils transmits twice through said transmission hologram, and further,
said transmission hologram is located such that an angle of first transmission through said transmission hologram is different from an angle of second transmission through said transmission hologram.
4. (Original) The projection optical apparatus according to claim 1, wherein:
said concave mirror comprises a Fresnel concave reflecting mirror.

5. (Original) The projection optical apparatus according to claim 1, wherein: said diffusing plate has such a property that an angle of diffusion at full width half maximum is up to 20°.

6. (Original) The projection optical apparatus according to claim 1, wherein: said diffusing plate has such a property that an angle of diffusion at a full width where light intensity becomes 1/10 is up to 40°.

7. (Original) The projection optical apparatus according to claim 1, wherein: said projection units and said concave mirror are positioned such that axial chief rays from said projection optical systems in each projection unit are obliquely incident on said concave mirror.

8. (Currently Amended) The projection optical apparatus according to claim 1 [2], wherein:

both zero-order light upon the first transmission through said transmission hologram and zero-order light upon the second transmission through said transmission hologram pass through a position different from those of said exit pupil images.

9. (Original) The projection optical apparatus according to claim 1, wherein: said diffusing plate has a bending action by diffraction.

10. (Original) The projection optical apparatus according to claim 1, which satisfies the following condition:

$$10^\circ < \gamma < 20^\circ \quad \dots (3)$$

where γ is an angle of bending of a d-line axial chief ray through said diffusing plate.

11. (Original) The projection optical apparatus according to claim 1, which satisfies the following condition:

$$5^\circ < \beta < 20^\circ \quad \dots \quad (4-1)$$

where β is an angle of incidence of a d-line axial chief ray on said concave mirror.

12. (Original) The projection optical apparatus according to claim 1, which satisfies the following condition:

$$0.5 < \gamma/\beta < 2 \quad \dots \quad (5)$$

where γ is an angle of bending of a d-line axial chief ray through said diffusing plate, and β is an angle of incidence of a d-line axial chief ray on said concave mirror.

13. (Canceled)

14. (Original) A stereoscopic viewing system, comprising:

a projection unit comprising a display device and projection optical systems,

a first projection member comprising at least three such projection units,

a second projection member comprising at least three such projection units,

a concave mirror for projecting an exit pupil of each of said projection optical systems onto a given position, and

a diffusing plate located near to an image projected through said first projection member and an image projected through said second projection member, wherein:

said projection optical system magnifies and projects an image appearing on said display device,

said concave mirror projects an exit pupil of each of said projection optical systems in said first projection member onto a first given position, and projects an exit pupil of each of the projection optical systems in said second projection member onto a second given position, and

said diffusing plate has such a diffusion action that each of exit pupil images at said first given position is projected in an at least partially overlapping fashion and each of exit pupil images at said second given position is projected in an at least partially overlapping fashion.